

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1. (Previously Presented) A live recombinant *Mycobacterium bovis*-BCG strain comprising a heterologous nucleic acid capable of expression, the heterologous nucleic acid encoding at least one protein or polypeptide that exhibits alanine dehydrogenase activity, glutamine synthetase activity, or L-serine dehydratase activity.

2. (Previously Presented) The live recombinant *Mycobacterium bovis*-BCG strain of claim 1, wherein the at least one protein or polypeptide is selected from the group consisting of alanine dehydrogenase [SEQ ID NO:1; SEQ ID NO:2], glutamine synthetase [SEQ ID NO:7 to SEQ ID NO:14] and L-serine dehydratase [SEQ ID NO:5; SEQ ID NO:6].

3. (Previously Presented) The live recombinant *Mycobacterium bovis*-BCG strain of claim 1, wherein the nucleic acid comprises all or part of at least one nucleic acid molecule selected from the group consisting of [SEQ ID NO:1], [SEQ ID NO:5], [SEQ ID NO:7], [SEQ ID NO:9], [SEQ ID NO:11], and [SEQ ID NO:13].

4. (Previously Presented) The live recombinant *Mycobacterium bovis*-BCG strain of claim 1, wherein the nucleic acid comprises a sequence having at least 60% sequence identity to at least one nucleic acid molecule selected from the group

consisting of [SEQ ID NO:1], [SEQ ID NO:5], [SEQ ID NO:7], [SEQ ID NO:9], [SEQ ID NO:11] and [SEQ ID NO:13].

5. (Previously Presented) The live recombinant *Mycobacterium bovis*-BCG strain of claim 3, wherein the nucleic acid molecule has undergone modification.

6. (Previously Presented) The live recombinant *Mycobacterium bovis*-BCG strain of claim 1, wherein the *Mycobacterium bovis*-BCG strain is selected from the group consisting of *Mycobacterium bovis*-BCG-Russia, *Mycobacterium bovis*-BCG-Moreau, *Mycobacterium bovis*-BCG-Japan, *Mycobacterium bovis*-BCG-Sweden, *Mycobacterium bovis*-BCG-Birkhaug, *Mycobacterium bovis*-BCG-Prague, *Mycobacterium bovis*-BCG-Glaxo, *Mycobacterium bovis*-BCG-Denmark, *Mycobacterium bovis*-BCG-Tice, *Mycobacterium bovis*-BCG-Frappier, *Mycobacterium bovis*-BCG-Connaught, *Mycobacterium bovis*-BCG-Phipps, and *Mycobacterium bovis*-BCG-Pasteur.

7. (Previously Presented) A pharmaceutical composition comprising the live recombinant *Mycobacterium bovis*-BCG strain of claim 1.

8. (Previously Presented) A vaccine or immunogenic composition for treatment or prophylaxis of a mammal against challenge by *Mycobacterium tuberculosis* or *Mycobacterium bovis* comprising the live recombinant *Mycobacterium bovis*-BCG strain of claim 1.

9. (Canceled).
10. (Previously Presented) The vaccine or immunogenic composition of claim 8, further comprising a pharmaceutically acceptable carrier.
11. (Previously Presented) The vaccine or immunogenic composition of claim 8, further comprising an adjuvant.
12. (Previously Presented) The vaccine or immunogenic composition of claim 8, further comprising immunogenic materials from one or more other pathogens.
13. (Previously Presented) A method for treatment or prophylaxis of a mammal against challenge by *Mycobacterium tuberculosis* or *Mycobacterium bovis* comprising administering to the mammal the live recombinant *Mycobacterium bovis*-BCG strain of claim 1.
14. (Previously Presented) The method of claim 13, wherein the mammal is a cow.
15. (Previously Presented) The method of claim 13, wherein the mammal is a human.

16. (Previously Presented) The method of claim 13, wherein the vaccine or immunogenic composition is administered in the presence of an adjuvant.

17. (Previously Presented) A method for treatment or prophylaxis of a mammal against cancer comprising administering to the mammal the live recombinant *Mycobacterium bovis*-BCG strain of claim 1.

18. (Previously Presented) The method of claim 17, wherein the vaccine or immunogenic composition is administered in the presence of an adjuvant.

19. (Previously Presented) The method of claim 17, wherein the cancer is bladder cancer.

20. (Previously Presented) A test kit comprising the live recombinant *Mycobacterium bovis*-BCG strain of claim 1.

21. (Previously Presented) A medium composition for inhibiting the growth of *Mycobacterium bovis*-BCG comprising alanine or serine as the only nitrogen source for growth.

22. (Canceled).

23. (Previously Presented) The medium composition of claim 21, further comprising:

- (a) a carbon source;
- (b) iron;
- (c) magnesium; and
- (d) SO₄.

24. (Previously Presented) A medium composition of claim 23, wherein the carbon source is selected from the group consisting of glycerol, dextrose, citrate and glucose.

25-27. (Canceled).

28. (Previously Presented) A method of culturing *Mycobacterium bovis*-BCG comprising:

- (a) obtaining a sample of *Mycobacterium bovis*-BCG; and
- (b) culturing the sample in a medium comprising histidine.

29. (Canceled).

30. (Previously Presented) The live recombinant *Mycobacterium bovis*-BCG strain of claim 4, wherein the nucleic acid molecule has undergone modification.